

# CAMEO Today

March/April 1999  
Vol. 9, No. 2

## In this Issue:

### CAMEO and ALOHA

Training ..... P. 2

CAMEO '99 Workshop ... P. 3

CEPP Conference ..... P. 3

Is EPCRA Working? ..... P. 5

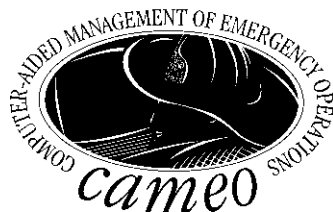
Washington Response... P. 7

## CAMEO Workshop

### Mark Your Calendars!

There is a CAMEO  
Workshop scheduled for  
May 24-28, 1999, in Phoenix,  
AZ. More information is  
available on page 3 and  
online at:

[www.epa.gov/ceppo/cameo99.html](http://www.epa.gov/ceppo/cameo99.html)



**CAMEO Today** Newsletter  
National Safety Council  
1025 Connecticut Avenue, NW  
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## Ask Dr. ALOHA

By Mary Evans



### When ALOHA Can't Help You

On the morning of July 26, 1993, the community of Richmond, California, had begun to prepare for a fine summer day. The wind was from the southwest at five to seven knots, and the temperature was 70° F under partly cloudy skies.

At the General Chemical Corporation facility, just outside the city, workers were preparing to offload oleum from a 100-ton tankcar. Oleum is the form in which sulfuric acid usually is transported; it is a mixture of sulfuric acid and sulfur trioxide. At room temperature, oleum is a thick paste that does not flow readily, so the workers, following standard procedures, were heating the oleum by

running steam through heating coils on the tankcar.

Just after 7 a.m., a safety relief valve unexpectedly blew out. No one knows why; the valve was rated to withstand tank pressures up to 100 psi, and the tankcar's pressure gauge read only 55 psi. But a steady stream of vapor began to escape through the three-inch valve. A thick white cloud formed around the tankcar and began drifting downwind. The workers on the tankcar were forced to withdraw to a safer location.

As the initial reports of the release came in over the radio, one local emergency response team decided to use ALOHA to predict the downwind dispersion of the escaping pollutant.

*Go to ALOHA, P. 4*

## CAMEO Windows

by Gary Hilbert, [cameo@nsc.org](mailto:cameo@nsc.org)

### Making User Fields Work in Query

Several issues back, we reported that the user fields in CAMEO databases will cause problems when selected as part of an output report.

Here's what the problem looks like. Suppose your fire department has developed an inspection program for chemical facilities. You've created a user field in CAMEO to record information

about the inspections and have entered data for the facilities that have been inspected. Later, you want to print a report on the reporting status of facilities in your database, so you prepare a Query for this purpose. Among the items in which you are interested is whether the facility has been inspected, so your Query's output report includes the user field for inspections. But when you run the query, the only results you get are for facilities that have been inspected.

Why does this happen? The reason has to do with the way CAMEO handles user-added information. As far as CAMEO is concerned, the only records that exist in the user databases are the

### Topics this month:

- *Making User Fields Work in Query*
- *Alert to RMP\*Comp Users*
- *Chemical Agents in the CAMEO Database*
- *Editing Tier II Data*
- *Importing Data from Tier II Windows*
- *Persistent Footprints in Marplot 3.2*

*Go to CAMEO, P. 6*

## CAMEO for Windows and Advanced ALOHA Training Classes

The National Safety Council has updated its CAMEO for Windows training course to include new features in version 1.1. This course is an intensive two-day session that will focus on key aspects of CAMEO, including CAMEO for Windows for Emergency Response and SARA Title III recordkeeping, navigating CAMEO for Windows, tracking chemical inventories, developing and linking Site Plans, screening and scenarios, advanced CAMEO operations, and Linking to MARPLOT for mapping and ALOHA for air modeling.

Also, we updated our advanced ALOHA course which covers chemical properties and chemical behavior associated with air modeling, differences between heavy and neutrally buoyant gases, and ALOHA source terms as they are used for planning and response. This is a basic air modeling course.

All courses are taught by experienced instructors, certified by the U.S. Environmental Protection Agency and the National Oceanic and Atmospheric Administration. Student computer use will be optional, although desirable. Students may watch and take notes or follow along on their own computers. You are welcome to bring your computer, or we can assist you in renting one locally. Students are encouraged to bring their own manuals for reference.

For additional information, call the National Safety Council at (800) 99-CAMEO; or visit the training section of our Web site at [www.nsc.org/ehc/cam/training.htm](http://www.nsc.org/ehc/cam/training.htm).

### Registration Form

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Street: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

*Indicate which course(s) you will attend:*

#### CAMEO 1.1 for Windows

- ☐ Washington, D.C., June 15-16, 1999  
☐ Washington, D.C., December 7-8, 1999  
**Tuition:** \$375 per student

#### Advanced ALOHA 5.2 (Macintosh & Windows)

- ☐ Washington, D.C., June 17-18, 1999  
☐ Washington, D.C., December 9-10, 1999  
**Tuition:** \$424 per student

**Note:** Tuition does NOT include rental of a computer.  
**10% discount when attending both classes in the same week.**

#### Method of Payment

- ☐ Tuition \$ \_\_\_\_\_  
☐ Purchase Order No \_\_\_\_\_  
(Net 30 Days)  
☐ Credit Card Exp. \_\_\_\_\_ / \_\_\_\_\_  
# \_\_\_\_\_  
\_\_\_\_\_  
Signature  
(Product No. 12482-0000)

#### Send completed form to:

National Safety Council  
1025 Connecticut Ave., N.W., Suite 1200  
Washington, D.C. 20036  
Attn: Todd

#### Fax completed form to:

(202) 293-0032

*The National Safety Council reserves the right to cancel any class within five working days prior to scheduled class. The Council's liability is limited to cost of the class.*

**Refund Policy:** Refunds available only on cancellations received in writing at least 10 working days prior to scheduled class.

For information on travel directions, hotels and renting computers, call (800)99-CAMEO;  
email: [cameo@nsc.org](mailto:cameo@nsc.org); Internet: <http://www.nsc.org/ehc/cameo.htm>

# CAMEO '99

by Jennifer M. Browne

U.S. EPA's Chemical Emergency Preparedness and Prevention Office

EPA's Chemical Emergency Preparedness and Prevention Office (CEPPO), NOAA's Hazardous Materials Response and Assessment Division, and the Arizona State Emergency Response Commission (AZSERC) will host the CAMEO '99 Workshop in Phoenix, Arizona, May 24-28, 1999.

The workshop offers CAMEO users, emergency response planners and hazardous materials personnel the opportunity to learn CAMEO or fine tune their knowledge of the software. Attendees also can talk to the software developers and provide input on what is needed in future versions of the software.

CAMEO '99 will offer a variety of hands-on training sessions specific for CAMEO users' needs: Beginning/Advanced CAMEO for

Windows and Macintosh, as well as a track for the new Spanish version of CAMEO.

In addition to the training, a number of issues relating to the integration of CAMEO into your work will be discussed. Focus will be placed on:

- the basics of the Clean Air Act's Risk Management Program;
- using the Internet for planning and preparedness;
- accident prevention;
- CAMEO in action;
- how to handle facility information; and
- the future of CAMEO.

Special attention will be given to Y2K computer issues and steps the emergency response community can take to ensure continuity.

In between classes and lectures, take advantage of the popular "Swap Shop." Be sure to bring extra software and electronic files to share with other users as you network and learn what others are doing with CAMEO.

For more information, visit the conference Web site at: [www.epa.gov/ceppo/cameo99.html](http://www.epa.gov/ceppo/cameo99.html) or call the National Center for Environmental Publications and Information (NCEPI) at 1 (800) 490-9198 and ask for the CAMEO '99 *Registration Brochure*. Remember that you can use FEMA 305A money to attend this training conference.

## Cancellation Notice!

*The CAMEO/ALOHA training class previously scheduled for April in Chicago was canceled.*

## EPA Region III Schedules CEPP Conference

Region III of the U.S. Environmental Protection Agency (EPA) has scheduled its "1999 Chemical Emergency Preparedness and Prevention (CEPP) Conference" for September 20-23 in Washington, D.C.

The conference, to be held at the Hilton Washington & Towers, will feature a number of separate workshop tracks, focusing on such topics as first responders, counter-terrorism, federal resources, industry, medical preparedness, planning issues and transportation.

More than 65 speakers, with chemical emergency preparedness and prevention experience, will address more than 60 workshop sessions.

Speakers invited to Region III EPA's CEPP conference include:

- Phil McArdle of the New

York City Fire Department speaking on the "Fire Department's Response to Terrorism;"

- Dr. Sadayoshi Ohbu discussing the Tokyo subway Sarin gas incident;

- The Federal Bureau of Investigation's Don Haldimann presenting, "Oklahoma City - What Did We Learn?";

- Greg Noll on "Public Proactive Decisionmaking;" and

- Skip Elliott of CSX Transportation speaking on "The Rail Industry Today - A Move toward Prevention-based Hazardous Materials Transportation Safety."

Those who should plan to attend the Region III EPA's CEPP conference include fire, EMS and hazmats response personnel, safety and environmental managers, emergency services

coordinators, federal and state environmental specialists and regulators, emergency planners, law enforcement officers, and Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC) members.

A full floor of exhibits is planned for EPA Region III's CEPP conference. Companies interested in exhibiting should contact Tim Campbell at (610) 644-7149 or (610) 644-9560 (fax).

For additional information on the conference, contact U.S. EPA Region III (3HS33), 1650 Arch Street, Philadelphia, PA 19103-2029, call Region III at (215) 814-3302 or visit the conference Web site at: [www.epacepp.com](http://www.epacepp.com).

To register for the conference, call 1 (877) 804-CEPP (toll-free) or visit the Web site listed above.

### *ALOHA, From P. 1*

By this time, the plume of escaping chemical towered high above the General Chemical plant, and the first victims, complaining of stinging eyes and lungs, nausea and vomiting, had begun to arrive at local hospitals. This accident was clearly an air dispersion problem, but to their surprise, the responders could not find oleum in ALOHA's chemical library. Why wasn't it there?

#### **No Model Can Do Everything**

Models like ALOHA are evolving constantly. Developers are adding new features and refining old ones. But no model, including ALOHA, can model accurately all possible releases. Perhaps the most crucial skill that you need to effectively use ALOHA, or any other air model, is to be able to recognize the times when you will not be able to get good results from the model. This skill can save you valuable minutes during a hazardous materials incident. It can stop you from using inaccurate model predictions as a basis for response decisions. And it can help you to do the best possible job of planning for hazardous chemical emergencies in your community.

Let's look at two important ways in which ALOHA is not designed to model the release at Richmond.

#### **ALOHA Is Not Designed To Model Mixtures or Solutions**

Oleum is a mixture of two chemicals that behave very differently. One of them, sulfuric acid, has an extremely low vapor pressure except at very high temperatures. The other, sulfur trioxide, is more volatile. When sulfur trioxide is heated, as it was during the Richmond accident, it can escape into the atmosphere readily enough to present a hazard to people.

ALOHA is designed to model release and dispersion of pure chemicals only. No mixtures or solutions are included in the model's chemical library. Why is this so, when many hazardous substances are mixtures or solutions? In fact, ALOHA's developers hope eventually to include the ability to model at

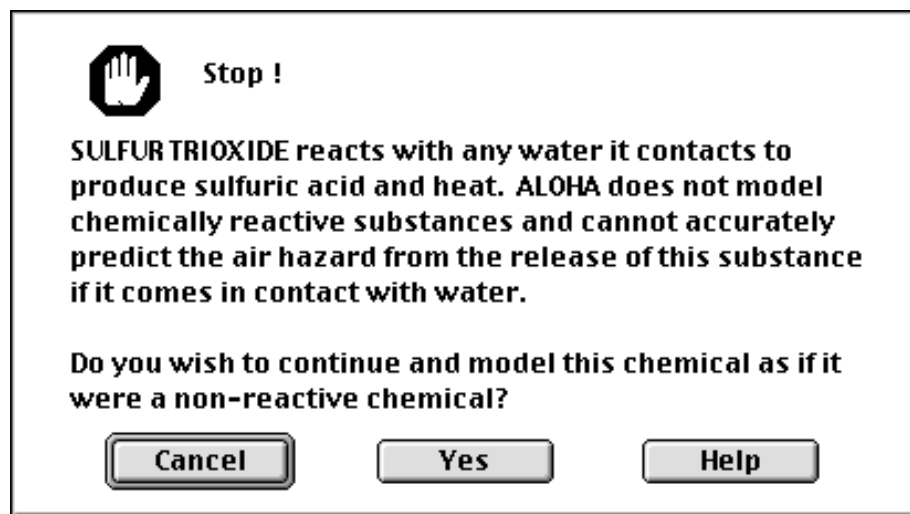
least some mixtures and solutions in the model. However, they also are committed to ensuring that the model produces accurate and reliable information, remains easy to use and makes its calculations fast enough to be useful during an emergency response.

Modeling mixtures and solutions poses more difficult problems than modeling pure chemicals. The necessary calculations are more complex and time-consuming, and more information would be required from the user. The model would need to account for at least two different sets of physical properties exhibited by two or more different chemicals, instead of just one set of properties for a single chemical. It would need to adjust for changes over time in the proportion of each chemical in the mixture, whenever mixture components differing in volatility escape at different rates during a release. ALOHA's development team has not yet found a way to add all these features without losing ALOHA's

downwind might be completely different from the chemicals that originally escaped from a container. Reactions also can change the temperature of the escaping pollutant. Chemical reactions are either "endothermic," requiring heat from the environment, or "exothermic," releasing heat to the environment.

At Richmond, a variety of chemical reactions might have occurred. An especially important one would have been the reaction of sulfur trioxide with water to form sulfuric acid. ALOHA alerts you to the potential for this reaction whenever you select sulfur trioxide from the chemical library (Figure 1).

The reaction between sulfur trioxide and water is highly exothermic; it releases a lot of heat. When sulfur trioxide within a vapor cloud reacts with water in the atmosphere, the reactions can heat up the cloud and cause it to be more buoyant than we otherwise would expect. That is what might have happened during the Richmond incident. People who



**Figure 1. ALOHA alerts you to the potential for a reaction with water when you select sulfur trioxide from the chemical library.**

ease of use, speed and reliability.

#### **ALOHA Does Not Account for Chemical Reactions**

When some chemicals are released accidentally, either as mixtures or alone, they can react together or with other chemicals in the environment. Reactions can result in the formation of completely new chemicals. In such cases, the chemicals dispersing

saw the cloud as it first formed reported that it began to roll along the ground like a heavy gas. That is what we would expect if no reactions were taking place because both sulfur trioxide and sulfuric acid have molecular weights much heavier than air. But the plume rising from the tankcar eventually attained a height of roughly 1,000 feet. This substantial

*Go to ALOHA, P. 9*

## EPCRA Is It Working?

By Steve Mason  
U.S. EPA, Region 6

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 establishes requirements for federal, state and local governments and industry regarding planning and "community right-to-know" reporting on chemicals. This legislation builds upon previous programs aimed at helping communities to better meet their responsibilities in regard to potential chemical emergencies. These provisions help increase the public's knowledge and access to information on the presence and releases of chemicals in their communities and environment. States and communities, working with facilities, are better able to improve chemical safety and protect the public and environment.

EPCRA has four major provisions: emergency planning (301-303), emergency release notification (304), community right-to-know (311-312) and toxic chemical release inventory (313). Information from these four reporting requirements helps states and communities develop a broad perspective of chemical hazards for the community, as well as for individual facilities.

### Is It Working?

One of the consistent questions is: are the provisions of EPCRA actually making a difference? The answer is yes they are! Outlined in the table on this page are data that support the ways in which this important legislation assists local, state and federal agencies do their jobs, protects local response personnel and provides communities with more information about the potential hazards around them.

### Emergency Notifications

These provisions are designed to provide local, state and federal officials with immediate information concerning accidental releases of hazardous substances and extremely hazardous substances

from facilities and transportation vessels. The faster information is provided to proper authorities, the quicker response actions can be taken to protect the environment and the public health.

Region 6 can track the success of these provisions through reports from 1987-1998. Facilities that release hazardous substances covered by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103 must report to the National Response Center (NRC), as well as reporting to state and local authorities under EPCRA section 304 (see below).

This indicates a 123% increase at the regional level in reported releases from 1987-1998.

Notification of Hazardous Substance Releases Region 6 (FY87 - FY98) to NRC*			Notification of Hazardous Substance Releases Nationally (FY87 - FY98) to NRC*		
FY87: 941	FY92: 1,829	FY97: 1,193	FY87: 4,541	FY92: 7,181	FY97: 4,495
FY88: 1,010	FY93: 1,662	FY98: 2,107	FY88: 5,176	FY93: 7,301	FY98: 3,850
FY89: 1,548	FY94: 1,989	TOTAL: 20,738	FY89: 6,865	FY94: 7,656	TOTAL: 71,219
FY90: 1,599	FY95: 2,326		FY90: 6,555	FY95: 5,795	
FY91: 1,646	FY96: 2,168		FY91: 1,801	FY96: 5,003	

\*Approximate data

Discussions with various stakeholders reveal that there is not an increase in the number of releases; rather, more facilities now are aware of their reporting responsibilities through outreach programs and enforcement by EPA Region 6, state and local authorities. Additionally, the average time from a release occurring to being reported to the NRC has gone from 615 minutes in 1987 to 488 minutes in 1998, a 21% decrease in average time.

These numbers reveal that local, state and federal agencies are being provided with more release notifications than before EPCRA, and these reports are being made in a more timely manner. Thus, responders gain valuable information and additional time to determine appropriate response activities.

### Community Right-to-Know

Almost every Local Emergency Planning Committee (LEPC) and State Emergency Response Commission (SERC) in the nation has seen an increase in the number of facilities reporting under the right-to-know provisions over the past five to six years. These increases are the result of a number of factors, including outreach projects conducted by local, state and federal officials, enforcement actions taken by state and federal authorities, word-of-mouth and the work of local officials to generate interest in the program.

Although no official statistics show that this provision has prevented accidents, numerous stories show that the chemical inventory reports filed

("Tier II forms") have provided information on chemical hazards, locations and quantities during an emergency response. This information provided local response officials with valuable insights on how to respond appropriately.

Region 6 has tracked the increase in reporting under the right-to-know provisions for the past 10 years. This increase has led to more information being available to state and local officials on chemical inventories and locations from facilities. This leads to more effective planning, preparedness and response activities within the community.

### Toxic Release Inventory

Section 313 of EPCRA requires facilities to report certain chemicals used or manufactured at the facility

Go to *EPCRA*, P. 9

*CAMEO, From P. 1*

ones that have been saved. In practice, this means that there are three types of user-added records in CAMEO:

- those that contain information;
- those that contain no information; and
- those that haven't been created yet.

Sound's weird doesn't it?

Queries on user fields themselves generally work properly. The real problem occurs when user fields are included in a report. Remember, a report can include only information from fields in which an entry exists. This means that an output report containing a user field will only contain records where an entry has been created by saving the user field record, even if no data were entered.

So what's the solution? It's simple enough; just open and save each user field record. You don't have to enter any data; all you have to do is open the user field in Edit mode, click on the Save button and go on to the next one. This will have the effect of creating empty records that CAMEO can include in an output report. Step-by-step instructions:

1. From the main CAMEO screen, open the module in which your user field exists.
2. Open the first record in the database.
3. Select "Edit" on the Record pull-down menu.
4. Click on the "User Fields" button.
5. Click on the "Save" button.

6. Select "Save" on the Record pull-down menu.

7. Select "Next" on the Record pull-down menu to move on to the next record.

8. Repeat steps three through seven until you come to the end of the database.

Once you've made sure that all of the user field records have been saved, you'll need to add this step to your data entry procedures.

### Alert to RMP\*Comp Users

Make sure you have the latest version; there can be major differences between the results for certain chemicals, depending on which version you are using. The most recent version at this writing is 1.06.

Also, RMP\*Comp is no longer available from the NOAA Web site. It is now being distributed by EPA at: [www.epa.gov/ceppo/tools/rmp-comp/rmp-comp.html](http://www.epa.gov/ceppo/tools/rmp-comp/rmp-comp.html).

### Chemical Agents in the CAMEO Database

We occasionally get questions about whether the chemical database in CAMEO contains safety information on "weapons of mass destruction." The answer is a qualified yes. We've reviewed lists of agents against the chemicals in the CAMEO database and have found that nearly every one is listed. In some cases, the information provided is sparse, but the chemicals are in the database.

A good starting point for researching the subject is the

Mitretek Systems Web site at: [www.mitretek.com/offer/energy/cw\\_page/cwagent.html](http://www.mitretek.com/offer/energy/cw_page/cwagent.html). This site has Material Safety Data Sheets on the most common agents.

Another location that might be of interest is at the U.S. Soldier and Biological Chemical Command at the Army's Aberdeen Proving Ground in Maryland. The command operates a Web site at: [www.cbdcom.apgea.army.mil/ops/dp/fs/dp\\_helpline.html](http://www.cbdcom.apgea.army.mil/ops/dp/fs/dp_helpline.html) and the Chemical/Biological HelpLine at 1 (800) 368-6498.

### Editing Tier II Data

It's spring again. Time for March winds, April showers and Tier II reports. Once again, we're getting calls from CAMEO users trying to edit Tier II data. Many, if not most, of you who perform this annual ritual are maintaining Tier II data through the Tier II form on CAMEO's "View" pull-down menu. This form provides a quick and easy way to enter the data in the first place, but it is really awkward to use for editing data.

The correct way to edit Tier II information in CAMEO is through the Detail screens, specifically, the Chemicals in Inventory/Transit screen. Step-by-step instructions:

1. From the main CAMEO screen, open the Facilities module.
2. Open the first record you want to edit.
3. Click on "Show Links" on the Record pull-down menu.

*Go to CAMEO, P. 8*



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## WASHINGTON RESPONSE

### CSB Unveils FY 2000 Budget Request

The U.S. Chemical Safety and Hazard Investigation Board (CSB) has released its budget request for fiscal year 2000. The agency is asking for \$12.5 million, up \$6 million from its fiscal 1999 budget.

CSB officials say the budget request will help the CSB, which began operations in January 1998, progress with its plans to gradually grow into a fully functional agency. "This budget request reflects our best effort to come to terms with the magnitude of a problem that we, and key stakeholders, are just now beginning to comprehend," according to CSB Chairman Dr. Paul L. Hill, Jr.

During the first nine months of operation, the CSB:

- established its infrastructure and comprehensive business plan;
- initiated six investigations and 13 reviews of chemical incidents, and issued 15 separate safety recommendations to industry, and federal and state agencies;
- worked toward minimizing duplication in government investigations by taking a leadership role in coordinating investigations among stakeholders - federal, state and local agencies, as well as company personnel;
- focused on coordinating and leveraging government resources for incident prevention by negotiating and signing a Memorandum of Understanding (MOU) with the Occupational Safety and Health Administration (OSHA) and developing MOUs with the National Transportation Safety Board (NTSB)

and Environmental Protection Agency (EPA);

- developed the first national repository of chemical safety information; and
- established the first consolidated statistical database, including the databases of the NRC, USFA, DOT, OSHA and ERNS.

### CSB Recommends Odorizing Nitrogen

A report published by the CSB says that the death of a chemical worker at Union Carbide's Hahnville, Louisiana plant might have been prevented if an odorant had been added to the nitrogen that suffocated the man and seriously injured another.

The CSB recommended that the National Institute for Occupational Safety and Health (NIOSH) study the "appropriateness and feasibility of odorizing nitrogen to warn personnel" of the presence of the chemical when it is used in such confined spaces as the interior of tanks, reactor vessels and large pipes.

The CSB also made recommendations to the company, EPA, OSHA, the Center for Chemical Process Safety and the Compressed Gas Association. The CSB noted in its report that, according to OSHA's records, at least 21 people died in the U.S. between 1990 and early 1996 in incidents involving the use of nitrogen in confined spaces.

The CSB "summary report" on the Union Carbide Hahnville incident is the second investigation report reviewed and adopted by the board. A summary report addresses incidents that are within the CSB's jurisdiction but, because of the limited nature of the issues involved, do not require more comprehensive investigations and reports.

### CSB Investigating Two Fatal Incidents

The CSB has decided to conduct full investigations into a fatal explosion, on February 19, at the Concept Sciences chemical plant in Allentown, Pennsylvania, and a fatal fire at the Tosco Refinery near Avon California, on February 23.

Five workers were killed in the Allentown incident, and several other people were injured. One of the fatalities occurred in an adjacent business when the explosion leveled the plant and seriously damaged nearly a dozen other buildings in the industrial park near Lehigh Valley International Airport.

The CSB is involving experts from the Center for Applied Analytical Technologies of the Naval Surface Warfare Center in the investigation. The CSB team will evaluate the hydroxylamine chemistry and manufacturing process, identify other incidents which might have similarities to the Allentown event, do a computer analysis of the energy released in the explosion and conduct a laboratory simulation of the reaction chemistry.

In the Tosco fire, four workers were killed and another critically injured when a fireball engulfed them while they attempted to repair a leak in a pipe containing highly flammable naphtha. A five-member, CSB preliminary investigation team was dispatched shortly after the incident and has been working on-scene gathering evidence and conducting interviews since its arrival.

*CAMEO, From P. 6*

4. Select "Chemicals in Inventory/Transit."
5. Select the first chemical on the list.
6. Select "Edit" on the Record pull-down menu.
7. Make your desired changes to the record, e.g., change the Year field.
8. Select "Save" on the Record pull-down menu.
9. Select "Next" on the Record pull-down menu to move on to the next record.
10. Repeat steps six through seven until you come to the end of the facility's chemical inventory.
11. Return to the Facilities module, select the next facility to edit and repeat the process.

**Importing Data from Tier II Windows**

If you have received Tier II reports on diskettes from the Tier II Windows application, here are a few things you should know about importing the data to CAMEO:

1. It is possible.
2. The correct import option is the "Tier II 5.0" option on the Import flyout on the Utilities pull-down menu.
3. CAMEO will only import from an installed Tier II application on your system; it will not import information from Tier II data diskettes;
4. CAMEO's Tier II import function will only append information. This means that if you import a facility that is already in your database, a duplicate record will be created, so make a check for possible duplicate records a part of your import procedure.
5. You can import one facility at a time from Tier II Windows into CAMEO, only if it is the only record in Tier II. So, if you have reports from Facility A one day, Facility B and Facility C the next day, and Facility D a week

later, you could import them separately by keeping only the records you intend to import to CAMEO in your Tier II database. Here's the procedure:

- start with an empty Tier II Windows database;
- import the Facility A data to Tier II;
- import it from Tier II Windows into CAMEO;
- delete the Facility A data from Tier II Windows;
- the next day, repeat the preceding steps with the Facilities B and C; and
- repeat them again a week later with the Facility D data.

The key is to delete everything from the Tier II database between CAMEO import cycles.

**MARPLOT 3.2: The Case of the Really Persistent Footprint**

A number of users have complained that they could not get the CAMEO Screening and Scenarios Vulnerable Zone (VZ) or the ALOHA plume footprint to come off the MARPLOT map. They would prepare the VZ in CAMEO or the footprint in ALOHA, switch to MARPLOT and select a source point. The footprint would appear as it should, but when they tried to change its position or direction, a second footprint would appear, but the original remained.

Removing the footprint by changing facilities or scenarios in CAMEO or by using the "Delete ALOHA Objects" option on the MARPLOT Sharing menu did not work. The only way to get rid of the footprint was to shut MARPLOT down and reopen it.

So, why didn't the footprint change or go away? Because MARPLOT 3.2 has a problem with ALOHA footprints. MARPLOT 3.2 is not part of the original CAMEO Suite. It is a slightly updated version of the mapping program, designed to be part of the LandView III package distributed by the Census Bureau. Version 3.2

works just fine with LandView, but apparently a bug was introduced that causes the ALOHA footprint to linger on the screen long after its time has passed.

Why would you want to run version 3.2? Does it offer significant advantages over version 3.1? The answers are no, but there are a couple of features that might interest some users.

MARPLOT version 3.2 offers a nicer view of the map when using the "Rescale to Marked and Focus Points" option. The points are inset slightly, rather than right on the border of the map as in version 3.0 and 3.1. This makes the function easier to use. Another difference is the option of using Windows Metafiles as graphics when inserting picture objects into the map. Metafiles are more compact than the other option, \*.BMP files. The third major difference is the presence in version 3.2 of a far more extensive color palette for use with map objects.

So, does it make sense to switch to MARPLOT 3.2? The functional differences are so small that the switch involves trading minor inconvenience for minor improvement. It is really up to you.

*Running LandView III.* A copy of MARPLOT 3.2 is included with the LandView III program, but you do not need to use it. LandView III works perfectly well with MARPLOT 3.1. As we discussed in the July/August issue of *CAMEO Today*, CAMEO, ALOHA and LandView can comfortably share a copy of MARPLOT, but it should be only one copy. Keeping more than one copy of MARPLOT on your system can result in confusion and incorrect map links.

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**EPCRA, From P. 5**

and their emissions into the environment on annual basis. These emissions include routine operations, as well as accidental releases. (See second chart)

This represents a 45.6% in total releases on a national basis and a 41% reduction on a regional basis in less than

Chemical Inventory (Tier II) Reporting in Region 6 Calendar Years (1988 - 1997)		
88: 4,326	92: 71,759	96: 98,145
89: 22,488	93: 91,377	97: 98,442
90: 62,573	94: 96,012	
91: 67,132	95: 97,700	

10 years, with an average reduction per facility of 56% on a national basis and a 45% reduction at the regional level.

This provision of EPCRA has led facilities to change their production techniques, improve recycling and recovery efforts, and improve overall procedures to reduce emissions.

TRI Release Reports (1988, 1994 - 1996) Nationally				TRI Release Reports (1988, 1994 - 1996) Region 6			
	Total Facilities	Total Releases	Average per Facility		Total Facilities	Total Releases	Average per Facility
88:	20,436	3,352,958,534	164,071	88:	1,884	673,836,431	357,662
94:	20,946	1,982,785,906	94,662	94:	2,069	294,181,271	142,185
95:	20,356	1,895,290,172	93,107	95:	2,026	386,445,964	190,743
96:	19,726	1,823,765,044	92,454	96:	2,031	397,087,551	195,513
REDUC-TION:		- 1,529,193,490	- 71,617	REDUC-TION:		- 276,748,880	- 162,149

**What's It For?**

There has been a tremendous amount of data generated by the provisions of EPCRA. This information has been used at the national level to help develop prevention programs, determine enforcement strategies and further right-to-know initiatives. The data has played a major role in the Clean Air Act Amendments and storm water regulations, whose goals are to prevent accidental releases and reduce emissions to the air and water.

At the regional level, the information

is used for environmental justice, hazard assessments, enforcement actions and comparative risk analyses.

At the state and local levels, this information is being used in many areas to improve contingency planning for chemical emergencies, train first responders on potential hazards that they might face during an

emergency, and provide citizens additional information about facilities to facilitate decisions made in the community.

As the provisions of the Accidental Release Prevention Program progress, let's remember the ultimate goals of

EPCRA and the risk management programs:

- prevent chemical accidents from occurring;
- reduce the risk posed by facilities in a community by improved prevention programs; and
- minimize the potential conse-

quences to the environment and public health from an accidental release, while protecting the personnel who respond to these releases.

Fortunately, these goals are desirable to all of us, and EPCRA and the new Risk Management Program can help. Contact the Emergency Planning and Community Right-to-Know Information and CAA Section 112(r) hotline at 1 (800) 424-9346, (703) 412-9810, TDD at 1 (800) 535-7672, Monday through Friday, 9 a.m. to 6 p.m., EDT, or the CEPPO Home Page at: [www.gov/ceppo/](http://www.gov/ceppo/).

**ALOHA, From P. 4**

plume rise suggests that, over time, the vapor cloud might have been heated considerably from within.

ALOHA does not account for the effects of the chemical reactions that might have occurred within the Richmond vapor cloud, or the plume rise that might have been caused by these reactions. Even if it were able to do so, it is unlikely that, during the confusion of a response, ALOHA's users would have been able to quickly track down accurate values for the inputs that the model would have required.

Just for starters, ALOHA would have needed to know the percentage of sulfur trioxide within the oleum in the tankcar in order to estimate the amount of sulfur trioxide that might escape into the air and the possible degree of heating from sulfur trioxide's reactions with water. This percentage commonly ranges between 10% and 65%.

**Check ALOHA's Limitations**

If the model you are using, whether it is ALOHA or another program, is not designed to handle a particular accident scenario, or if you cannot quickly obtain good values for the inputs that your model needs, you will be able to respond better to a hazardous chemical accident by not using the model at all. At Richmond, the plume escaping from the oleum tankcar was clearly visible. Simple visual observation allowed responders to track its movements much more accurately than any predictive model could.

Whenever you need to decide whether ALOHA can help you respond to a chemical accident, quickly review the list of limitations that ALOHA presents to you when it starts up; click **Help** to learn more about any of its limitations (Figure 2).

It will warn you that it cannot account for chemical reactions and cannot model chemical mixtures and solutions. Do not use ALOHA when these effects are present! It will not be able to help you. Rely instead on your own observations, experience and judgment, and information about

*Go to ALOHA, P. 10*

*ALOHA, From P. 9*

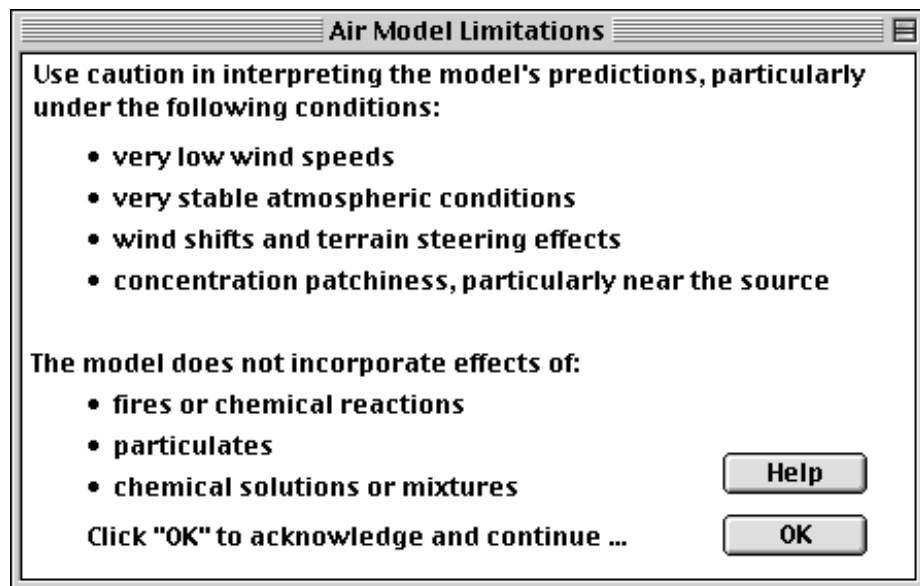


Figure 2. ALOHA's list of limitations.

the escaping pollutant that you can obtain quickly from CAMEO or other sources.

### Get Some Practice

If you have access to the Internet, try testing your skill at recognizing scenarios that ALOHA can and cannot model by taking the quiz you will find at: [http://response.restoration.noaa.gov/cameo/dr\\_aloha/decision/decision.html](http://response.restoration.noaa.gov/cameo/dr_aloha/decision/decision.html). To find answers to the quiz questions, try out the online ALOHA Decision Keys, at <http://response.restoration.noaa.gov/cameo/decision/keyindex.html>. The Keys are decision aids to help you (a) recognize whether you can run a particular scenario in ALOHA, and (b) choose the best source option to use for that scenario.

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